REMARKS

By this amendment, claims 1-7 have been canceled and new claims 8-17 have been added to place this application in condition for allowance. Currently, claims 8-17 are before the Examiner for consideration on their merits.

In the Office Action, the Examiner has rejected claims 1-7 under 35 U.S.C. § 103(a) based on United States Patent No. 5,493,670 to Virgil. In making this rejection, the Examiner has asserted that the only difference between original claim 1 and Virgil was the identification of the appropriate search engine. The Examiner opined that it would have been obvious to use a SQL search engine in the method of Virgil for querying of the database. It was also alleged that claims 2-7 were obvious in light of Virgil.

Applicant respectfully traverses the rejection. Virgil is fundamentally different from the instant invention, and Virgil cannot establish a *prima facie* case of obviousness against the new claims 8-17.

In support of the traversal, Virgil, the invention, and differences between the invention and Virgil are outlined below under the headings of PRIOR ART, INVENTION and ARGUMENTS.

PRIOR ART

Virgil is concerned with establishing a relationship between an engineering drawing and artwork of that drawing. This is clearly pointed out in the Summary of the Invention section of Virgil wherein engineering drawings for a given part are created and stored, and these drawings are used to create artwork regarding the part. Both are then

digitized and stored in a database memory. Control files specifying control data about both drawings are added to the database, and the control data is added to pointer tables, the control data specifying a relationship between the artwork and corresponding engineering drawing.

INVENTION

In contrast to the aim of Virgil, the present invention is directed to a method for automatically identifying engineering drawings, and extracting key information from the drawings for indexing purposes. The identification step is described in clause (i) of new claim 8, wherein graphical and textual data in the drawing is analyzed to identify:

1) the drawing;

2) a series of discrete boxes within each drawing that contain predefined keywords; and

3) text contained within the drawing and within the discrete boxes.

Once these items are identified, the inventive method stores this information in a relational database whereby the textual content of the discrete boxes is stored by reference to the keywords. This permits the drawings to be identified and retrieved by reference to:

1) the keywords;

2) textual content of the discrete boxes; or

3) textual content of the drawing.

In essence, the method identifies the drawing itself, and information about the drawing as found in the text boxes, i.e., the drawing frame. In doing so, the invention

allows a user to immediately locate and retrieve engineering drawings from the database in accordance with predefined parameters such as date of creation, date of revision, drawing number, etc.

Claim 9 describes the process of identifying the drawing using any horizontal two point line array or multiple line array based on a predetermined figure. A search is performed for all lines that connect at end points to establish whether a rectangular region is formed. Any region not bounded by another region is identified as the boundary of the engineering drawing.

Claim 10 describes the identification of information in the drawing by identifying vertically or horizontally adjacent rectangular regions with a shared border with one box or drawing frame containing a series of discrete boxes in an orderly arrangement containing textual content.

Claim 11 further defines identifying keywords within the discrete boxes and storage of information in the boxes for later identification using the keywords or textual content.

Claim 12 defines the method wherein textual information in the engineering drawing is stored for identification of the drawing using the textual information.

Claims 13-18 defines the system wherein the engineering drawings is retrieved and displayed based on textual information sought, with the textual information being readily identifiable.

Applicant submits that these new claims are fully supported by the original disclosure.

ARGUMENTS

Claim 8

Applicant submits that Virgil does not establish a *prima facie* case of obviousness against claim 8 since this reference neither teaches nor suggests all of its features. As pointed out above, claim 8 defines an analyzing step that identifies the discrete boxes in the drawing with keywords therein, and text contained within the drawing and within the discrete boxes. The textual content in the boxes is stored in memory with the content stored by reference to the keywords of each box. The drawing can then be identified and retrieved by reference to either the keywords, content in the discrete boxes, or textual content of the drawing.

Unlike the invention, Virgil discloses a method in a computer automated data processing system that relates to an automated logistics process. In this process, a computerized relationship is established between the LSAR database and the released engineering drawing database, see col. 1, lines 1-4. The target of Virgil is the database, and all the algorithms provided by Virgil focus on the database. The present invention however focuses on the engineering drawing itself.

A key distinction between Virgil and the invention is the interpretation of the drawing and the relationship between the drawing frames and text. This concept is completely lacking in Virgil in that Virgil does not analyze the drawing itself. Virgil merely puts the information about the drawings and artwork into the database.

In Virgil, the submitted drawing follows the standard MIL-STD-1388-2B Logistical Support Analysis Record (LSAR) database. In contrast, the present invention analyzes current drafting practice, and interprets the relationship between drawing frames and

texts to achieve useful information such as drawing tile and drawing revision and store them in a database for future searching requirement. Again, Virgil does not teach this interpretative step as it is defined in clause (i) of claim 1.

Referring to Tables 22-26, ZRNICR, and ZRNICB of Virgil, the analysis algorithm is based on the predefined codes such as DWGNUMZZ, which represents the drawing number, see col. 5, Table Z2. Virgil only analyzes the provided strings to see whether they meet the standard of predefined code. In contrast, claim 8 identifies a series of discrete boxes, and text in those boxes, and stores the text in memory in relation to keywords for later utilization. None of this is disclosed in Virgil.

As part of the rejection of original dependent claims 2-7, Applicant notes that the Examiner has asserted that Virgil teaches many of the features now found in claim 8. These assertions however are not fact specific, but mere allegations that the limitations found in the dependent claims are found various columns of the Virgil patent. Applicant strenuously submits that the Examiner has not set forth an objective basis to support a rejection of these dependent claims. Furthermore, to the extent that features of the original dependent claims are now part of claim 8, the rejection reasoning in the outstanding Office Action based on Virgil is insufficient to establish a *prima facie* case of obviousness. Merely citing cols. 3-5 of a prior art reference is not sufficient to meet the burden imposed on the Examiner. If the Examiner should continue to reject the claims based on Virgil, a detailed identification of the location in Virgil, which supports the rejection, is respectfully requested.

In further support of the traversal of claim 8, Applicant conducted a text search of the Virgil patent and was unable to locate either of the terms "text box" or "keyword."

While the Examiner has alleged that Virgil discloses these features, there is no literal basis for this contention, and there is no explanation in the rejection as to what constitutes the claimed keyword and discrete or text box features of the claims. Again, the Examiner has not set forth an objective basis for an obvious rejection under 35 U.S.C. § 103(a). Therefore, the rejection based on Virgil must be withdrawn in light of the submission of new claims 8-17 and clear failure on the part of Virgil to teach or suggest the invention.

Claim 9

Applicant submits that claim 9 is separately patentable over Virgil since this reference does not teach the limitations found in claim 9. More specifically, Virgil does not appear to teach or suggest the use of the identification of the line arrays to establish a closed rectangular section as recited in this claim.

Claim 10

Applicant submits that claim 10 is separately patentable over Virgil since this reference does not teach the limitations found in claim 10. More specifically, Virgil does not appear to teach or suggest the identification of the regions with the shared border with one box containing the series of discrete boxes as recited in this claim.

Claim 11

Applicant submits that claim 11 is separately patentable over Virgil since this reference does not teach the limitations found in claim 11. Virgil does not teach identification and storage of predefined keywords within text boxes for identification of the drawing using the stored information.

Claim 12

Applicant submits that claim 12 is separately patentable over Virgil since this reference does not teach the limitations found in claim 12.

Claims 13-17

As with claims 8-12, Applicant contends that the limitations of these claims are not found in Virgil, and these claims stand on their own for patentability. Nowhere does Virgil make the text information readily identifiable when the drawings are retrieved and displayed.

SUMMARY

In summary, the applied prior art patent to Virgil does not establish obviousness for any of claims 8-17, and these claims are now in condition for allowance. If a further rejection is made based on Virgil, the Examiner is requested to specifically point out the basis in the Virgil to support such a rejection of the claims.

In light of the arguments and presentation of claims 8-17, the Examiner is respectfully requested to examine this application in light of this amendment and pass claims 8-17 onto issuance.

If an interview would expedite allowance of this application, the Examiner is invited to telephone the undersigned at 202-835-1753.

The above constitutes a complete response to all issues raised in the outstanding Office Action of February 13, 2003.
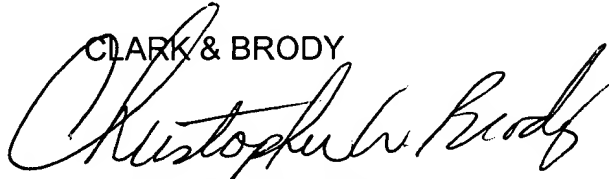
Again, reconsideration and allowance of this application is respectfully solicited.

A petition for a one month extension of time is hereby made. A check in the amount of $110.00 is enclosed for the petition fee. Please charge any fee deficiency or credit any overpayment to Deposit Account No. 50-1088.

Respectfully submitted,

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